

**WHAT IS CLAIMED IS:**

1. A method for controlling a distance between vehicles utilizing at least one camera mounted on one vehicle, comprising:  
detecting an image of an area ahead of the vehicle;  
5 determining whether a preceding vehicle exists;  
controlling vehicle speed based on a calculated distance between the vehicle and the preceding vehicle, if the preceding vehicle exists;  
determining whether a camera angle is a predetermined upper angle; and  
adjusting the camera angle to a predetermined lower angle if it is the  
10 predetermined upper angle.

2. The method of claim 1, wherein the controlling of the vehicle speed controls the vehicle speed such that the distance between vehicles is maintained at a predetermined distance.

3. The method of claim 1, further comprising maintaining the camera angle if it is not determined to be the predetermined upper angle.

4. A method for controlling a distance between vehicles utilizing at least one camera mounted on one vehicle, comprising:  
detecting an image of an area ahead of the vehicle;  
20 determining whether a preceding vehicle exists;

determining whether a camera angle is a predetermined lower angle; and  
adjusting the camera angle to a predetermined upper angle if it is the  
predetermined lower angle.

5           5.       The method of claim 4, further comprising maintaining the camera  
angle if the camera angle is not determined to be the predetermined lower angle.

6.       An apparatus for controlling a distance between vehicles,  
comprising:

10           a stereo camera detecting an image of an area ahead of a vehicle;  
a camera angle adjuster detecting and adjusting a camera angle; and  
a controller controlling a vehicle speed and the camera angle based on the  
detected image of the area ahead of the vehicle and the detected camera angle.

15           7.       The controlling apparatus of claim 6, wherein the controller  
executes instructions for:

controlling a vehicle speed based on the detected image of the area ahead of  
the vehicle; and

controlling the camera angle based on the detected image and the detected  
20 camera angle.

8.       The controlling apparatus of claim 7, wherein the controlling of the

vehicle speed comprises:

calculating a distance between vehicles based on the image of the area  
ahead of the vehicle; and

transmitting a speed control signal to an ECU based on the calculated  
5 distance between vehicles so as to control a throttle valve or a brake.

9. The controlling apparatus of claim 7, wherein the controlling of the  
camera angle comprises:

determining whether the preceding vehicle exists; and  
10 controlling the camera angle to be a predetermined lower angle if the  
preceding vehicle exists.

10. The controlling apparatus of claim 9, wherein the controlling of the  
camera angle further comprises controlling the camera angle to be a predetermined  
15 upper angle if the preceding vehicle does not exist.

11. The controlling apparatus of claim 8, wherein the controlling of the  
camera angle comprises determining whether the preceding vehicle exists; and  
controlling the camera angle to be a predetermined lower angle if the preceding  
20 vehicle exists.

12. The controlling apparatus of claim 11, wherein the controlling of

the camera angle further comprises controlling it to be a predetermined upper angle  
if the preceding vehicle does not exist.

13. The controlling apparatus of claim 6, wherein the stereo camera  
5 comprises a pair of CCD or CMOS.